

**Baltimore County, MD**  
**Supplemental Environmental Assessment**  
**Rt. 439 Emergency Communications Site**

## **Chapter 1 - Introduction**

### *1.1 Introduction*

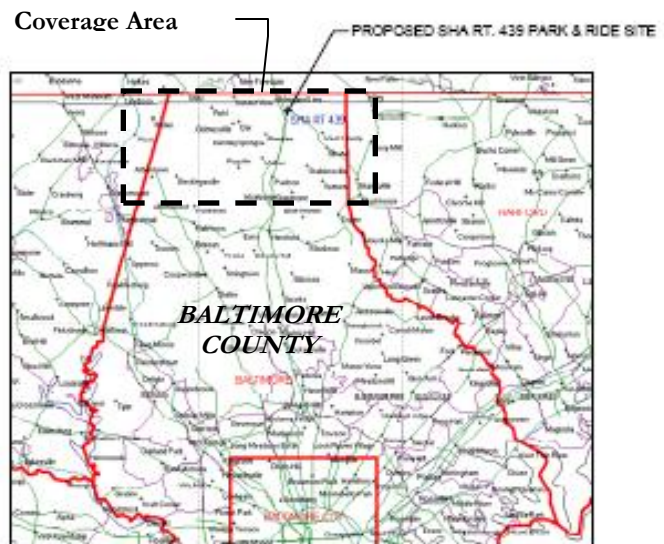
The U.S. Congress authorized a \$1 billion Public Safety Interoperable Communications (PSIC) Grant Program led by the National Telecommunications and Information Administration (NTIA) of the Department of Commerce and the Department of Homeland Security (DHS). The purpose of PSIC is to assist State, local, tribal, and nongovernmental agencies in developing interoperable communications as they leverage newly available spectrum in the 700 megahertz (MHz) band.

As co-administrators of the PSIC Grants Program, the Department of Commerce NTIA and the DHS Federal Emergency Management Agency (FEMA) Grant Programs Directorate (GPD) are meeting the challenge to substantially improve U.S. public safety communication. To comply with the intent of Congress and to use the large majority of funding for tangible improvements to U.S. communication systems, NTIA and GPD must efficiently use resources to establish, execute, and close out the one-time PSIC Grant Program. As a condition of grant funding, PSIC grantees must comply with all relevant Federal legislation, including the National Environmental Policy Act (NEPA).

Baltimore County, Maryland is a PSIC grantee utilizing this funding for the development of a new communications site supporting multijurisdictional public safety radio communications. The location of this communications site is adjacent to Interstate Highway US 83 in northern Baltimore County, MD as shown in Figure 1.

The communications site as proposed will support multiagency microwave backhaul, portable radio based (P25) voice communications and mobile data communications systems operating in both the 800 MHz and 700 MHz frequency bands.

Initially, a typical Federal Communications Commission (FCC) NEPA<sup>1</sup> analysis was performed, and subsequent to that report, it was determined a supplemental Environmental



**Figure 1 *Proposed Communications Site and  
Area of Poor RF Signal Level***

<sup>1</sup> See References (NEPA Documentation Package)

Assessment (EA) was warranted to fully address the PSIC Programmatic Environmental Assessment (PEA)<sup>2</sup> requirements. Accordingly, this supplemental EA taken into account with the original NEPA report examine the potential for environmental impacts as a result of the development of this communications site.

## 1.2 Purpose and Need

Purpose: The purpose of the proposed action is to provide an adequate physical facility to support public safety radio communications systems. The proposed action will have capacity to allow multiagency use such as Baltimore County, State of Maryland and the Central Maryland Area Regional Communications System (CMARC) while simultaneously accommodating various radio frequency (RF) communications formats.

Need: 1) To ensure sufficient RF signal strength to public safety personnel utilizing voice and data systems operating in northern Baltimore County where currently there is insufficient radio coverage. 2) To provide increased microwave backhaul reliability and route diversity utilizing multiple network connection nodes.

Figure 2 below illustrates the current lack of suitable RF signal strength operating inside typical structures with up to a 6 dB wall attenuation loss in a large part of the northern county. Areas shown in green are locations where portable radio operation within buildings is predicted to operate reliably.

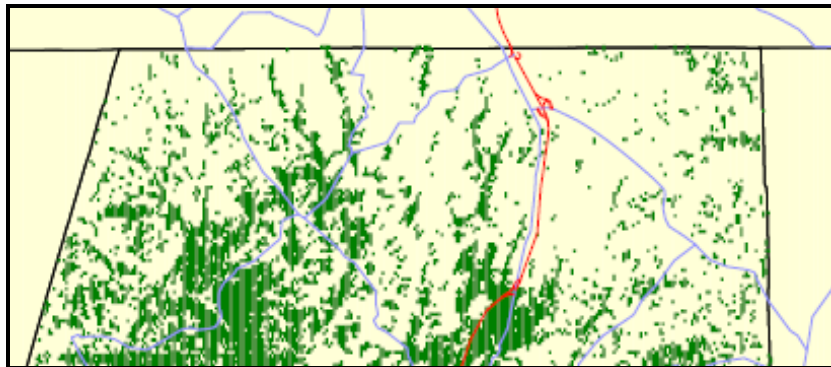


Figure 2 Existing North County In-Building Coverage (95% Reliability shown in green, un-shaded area is less than 95% reliability)

## 1.3 Need for the Supplemental EA

Originally an EA (included as Appendix 1) was performed utilizing the FCC Form 620 for New Tower ("NT") Submission Packet and the State of Maryland Statewide Wireless Infrastructure Committee Environmental Assessment Form<sup>3</sup> to address the NEPA resource areas. Subsequent to preparing these reports, it was determined a supplemental EA was warranted to fully address the PSIC PEA requirements. Accordingly, this supplemental EA considered together with the original NEPA report examine the potential for environmental impacts as a result of the development of this communications site.

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<sup>2</sup> See References

<sup>3</sup> See References (NEPA Documentation Package)

The original EA address the following resource areas; land use considerations, water use considerations, air use considerations, plants and animals, soci-economic, natural environmental features, cultural resources, rare threatened and endangered species, permits required, and historic properties.

This supplemental EA with the original EA in Appendix 1 examines in greater depth the site selection methodology, alternatives considered, as well as the following resource areas within the PEA scope; air quality, noise, water resources, infrastructure, socioeconomics and hazardous materials.

## Chapter 2 – Proposed Action

### 2.1 Project Description

Construct a communications site to enhance radio communications coverage in northern Baltimore County for outdoor and in-building operation of first responders, interoperability partners such as the State of Maryland and other County agencies. In addition to providing local area radio communications, the communications site will provide a microwave backbone system interconnected to other County and State radio towers, thus bolstering the County and State radio systems supporting Home Land Security and day-to-day operations.

Figure 3 shows the project development of 13,100 square feet (0.3 acre) of area to construct a 340' radio tower with prefabricated concrete equipment shelter containing a 100 kW emergency power generator and concrete foundation for a future State of Maryland equipment shelter. The tower will utilize medium intensity white top mounted strobe for daytime marking and a red top mounted beacon and side red lights for nighttime lighting per Federal Aviation Administration<sup>4</sup> (FAA) and FCC requirements. The tower will be unpainted galvanized steel. It will also include an access road approximately 160' long and 12' wide. The tower and shelter foundation, access road, fence posts and underground utility will conform to local code requirements. Appendix 2 contains construction documents illustrating the site elements.

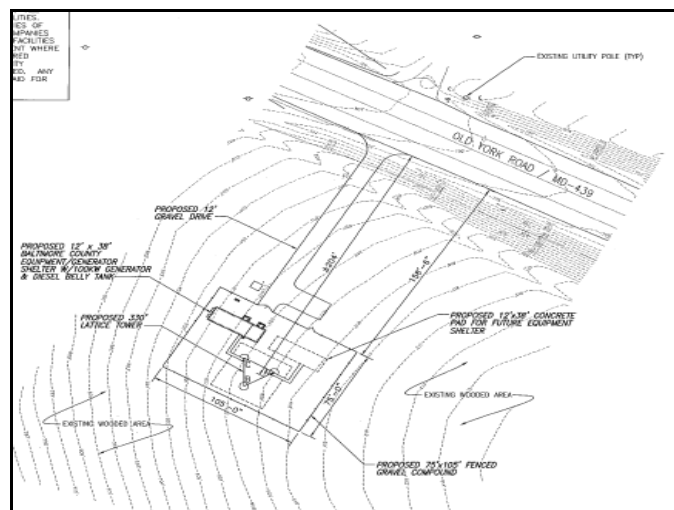


Figure 3 Project Layout

<sup>4</sup> Aeronautical Study No. 2008-AEA-2450-OE

## 2.2 Preferred Alternative

Location: Route 439 Site  
21144 Old York Road  
Parkton, MD 21120

The project is on property owned by the State of Maryland, State Highway Administration (SHA). Baltimore County and the SHA have executed an agreement allowing the County to develop a public safety communications site that services the needs of multiple agencies.

### Selection Criteria:

- a) Location provides suitable in-building RF signal strength operating inside typical constructed structures with up to a 6 dB loss. Areas shown in green of Figure 4 below are locations where portable radio operation within buildings will operate reliability throughout most of the northern county. Comparing to Figure 2 above of the existing coverage area, with this additional transmission and receiving site, much of northern Baltimore County is predicted to have adequate RF signal with the proposed site activated.
- b) Property available to Baltimore County without purchase.
- c) Location provides microwave connectivity to the existing County and State of Maryland transmission and receiver tower network.

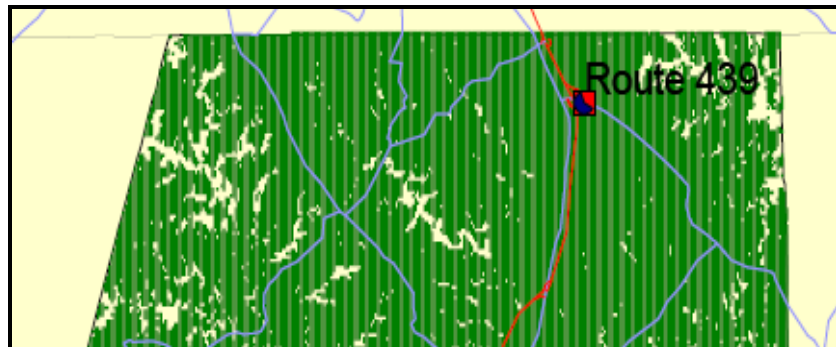


Figure 4 Proposed North County In-Building Coverage with New Tower  
(95% Reliability shown in green, un-shaded area is less than 95% reliability)

## 2.3 Alternatives Considered but Eliminated from Further Discussion

- a) Parkton landfill

Sited on County property, however this site would required a guyed tower at a height in excess of 600 feet above the ground. With greater land requirement, higher construction and ongoing maintenance costs and not providing suitable

RF coverage or microwave connectivity, this site was eliminated from further discussion.

b) Route 439 Park & Ride (south of the Park & Ride)

The original location considered impacted the State Highway Administration plans to expand the existing Interstate 83 and MD Route 439 capacity. As such, any tower construction at this site would prevent the SHA plans for future development. The site was eliminated from further discussion.

c) No action

Continuing the same level of poor radio signal strength is not a desirable alternative.

### Chapter 3: Affected Environment

The project location shown in Figure 5 is located in a wooded area southwest side of MD Route 439 (Old York Road) and east of Interstate US 83 in close proximity to the existing commuter park-and-ride facility. Surrounding properties are active farms and light industrial uses.

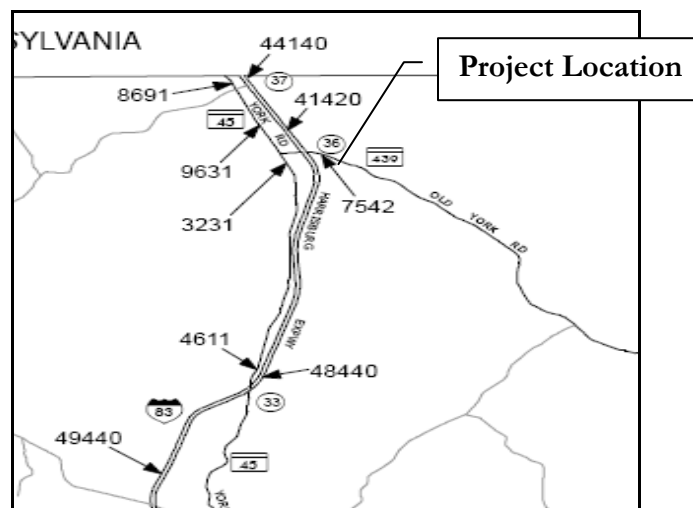


Figure 5 SHA 2008 Daily Traffic Count

#### Noise

The proposed location is approximately 200 feet south of Maryland Route 439 (Old York Road) and 700 feet northeast from Interstate highway US 83. Figure 4 shows the 2008 daily traffic<sup>5</sup> of 7,542 vehicles on Route 439 and 48,440 vehicles on US 83. In addition to the vehicle highways, farmland is located a few hundred feet north and to the northeast of the project location.

Existing noise contributors are the vehicular traffic on the roadways and farm machinery associated with crop processing.

<sup>5</sup> See References ([Maryland Traffic Volume Maps...](#))

#### Air quality

The proposed location is approximately 200 feet south of Maryland Route 439 (Old York Road) and 700 feet northeast from Interstate highway US 83. Figure 5 shows the 2008 daily traffic of 7,542 vehicles on Route 439 and 48,440 vehicles on US 83. In addition to the vehicle highways, farmland is located a few hundred feet north and to the northeast of the project location.

Existing contributors to air quality are the vehicular traffic in the area and farm machinery associated with crop processing.

#### Water resources

The site is not located in a 50 year or 100 year flood plan as certified in the original NEPA report<sup>6</sup> and there are not any existing water features.

#### Infrastructure

The existing infrastructure consists of:

- a) MD Route 439 (Old York Road) adjacent to the proposed site and,
- b) Baltimore Gas & Electric (BGE) overhead power lines along the edge of MD Route 439 (Old York Road).

#### Socioeconomics

Area surrounding the project location consists of Interstate and State roads, farms and light industrial uses.

#### Hazardous materials

Located a few hundred feet north and to the northeast of the project location shown in Figure 6 are existing farm lands. It would be expected that various pesticides and fertilizers have been and or are currently being applied to the arms adjacent to the project property.

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<sup>6</sup> See Appendix 1 New Tower ("NT") Submission Packet and the State of Maryland Statewide Wireless Infrastructure Committee Environmental Assessment Form

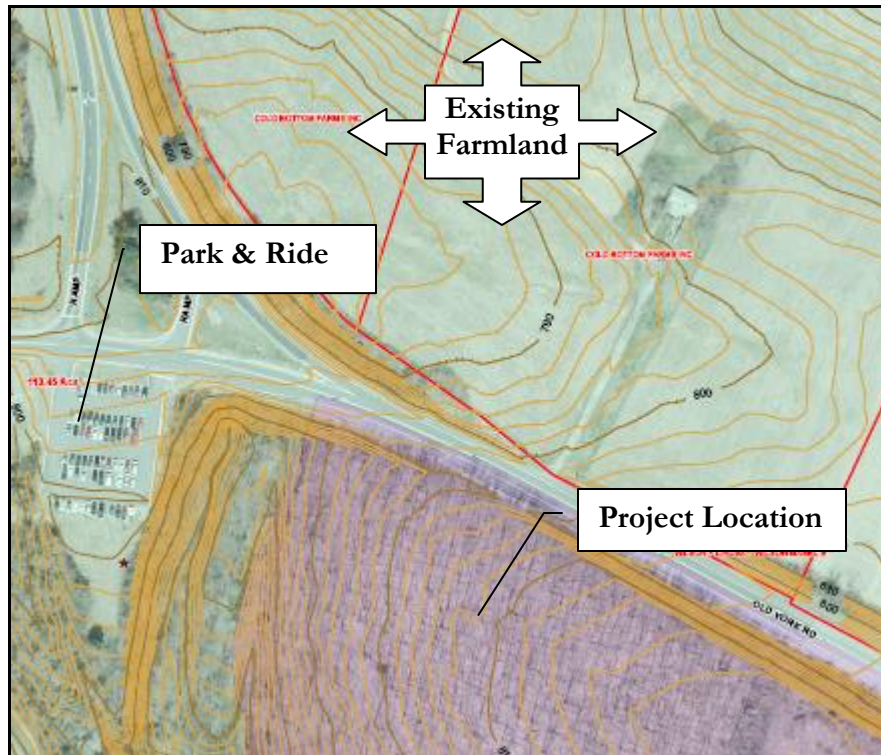


Figure 6 Farmland North and Northeast of Project Location

## Chapter 4 – Environmental Consequences

### Noise – No Impact

No significant construction related impacts; noise impacts are expected primarily in daytime hours. No significant operations related impacts; generator noise and HVAC noise is expected to be occasional and of short duration.

### Air quality– No Impact

No significant construction related impacts; any impacts would be short-term.

No significant operations related impacts; generator use is expected to be occasional and of short duration.

### Water resources – No Impact

No significant construction related impacts; construction-related impacts such as erosion and sedimentation will be short-term and will not be significant. All work will be in compliance of local soil erosion and sediment control requirements.

The site is not located in a 50 year or 100 year flood plan as certified in the original NEPA report.

There would be no operations related impacts.

### Infrastructure – No Impact

No significant construction related impact would be limited to construction vehicles entering and exiting the site and connection to the electrical primary conductor.

No significant operations related impacts.

Socioeconomics – No Impact

No significant impacts to economic development. Route 439 may be closed momentarily to accommodate the equipment shelter delivery vehicle. This is not expected to be a long lasting impact.

No operations related impacts.

Hazardous materials – No Impact

Construction-related increases in human health and safety hazards would not be significant. Operations related health and safety hazards from on-site fuel storage and equipment derived radiation would not be significant. The antennas will be installed compliant with FCC regulations.

No significant operations related impacts.

## **Chapter 5 – Findings and Conclusions**

Considering both the findings of the original NEPA evaluation (included as Appendix 1) and this Supplemental Environmental Assessment, this project has no significant impact on the existing environmental factors.

The project does provide a significant improvement to the RF coverage signal level, network reliability enhancements and interoperability with State of Maryland and other public safety agencies. The improved voice and data radio capabilities provided by this project will to the highest degree contribute to a safer work environment of the public safety personnel, the general population and those people travelling through northern Baltimore County.

## **Chapter 6 – List of Preparers**

Alan T. Kealey PMP, RCC Consultants, Inc.  
Bachelor of Science Industrial Technology

## **Chapter 7 – References**

- a) *NEPA Documentation Package, SHA Rt. 439 Radio Tower Site*, August 2009, A.D. Marble & Company, 3913 Hartedale Rd., Suite 1302, Camp Hill, PA 17011
- b) *Programmatic Environmental Assessment for the Public Safety Interoperable Communications (PSIC) Grand Program*, February 2009, Department of Commerce, National Telecommunications and Information Administration.
- c) Maryland Traffic Volume Maps depict the Annual Average Daily Traffic (AADT) at various locations on Maryland's roadways by county. The ATR and toll count data is collected on a continuous basis. The traffic volume maps for Maryland counties are available at the following web address.

<http://www.sha.state.md.us/shaservices/mapsbrochures/maps/oppe/tvmaps.asp>

d) Appendixes

1. *NEPA Documentation Package, SHA Rt. 439 Radio Tower Site*, August 2009, A.D. Marble & Company, 3913 Hartedale Rd., Suite 1302, Camp Hill, PA 17011
2. SHA Rt. 439 site construction documents